WE CLAIM:

1. A surface comprising

a) a support to which is bound a cell adhesion resistant (CAR) material, and,

b) bound to the CAR material, collagen VI or a biologically active fragment or variant thereof; and, optionally,

(i) one or more different extracellular matrix (ECM) proteins, or a biologically active fragment or variant of the ECM protein, and/or

(ii) one or more polycationic polymers, or a biologically active fragment or variant of the polycationic polymer.

2. The surface of claim 1, wherein

(i) the optional ECM protein is selected from the group consisting of one or more of elastin, fibronectin, vitronectin, tenascin, laminin, entactin, aggrecan, decorin, and a collagen, and

(ii) the optional polycationic polymer is selected from the group consisting of polyethylene imine (PEI), poly-D-lysine, poly-L-lysine, poly-L-lysine, and poly-D-ornithine.

3. A surface comprising

a) a support to which is bound a CAR material, and

b) bound to the CAR material, collagen VI or a biologically active fragment or variant thereof and one or more different ECM proteins, or a biologically active fragment or variant of the ECM protein.

4. The surface of claim 3, wherein the ECM protein of is selected from the group consisting of one or more of elastin, fibronectin, vitronectin, tenascin, laminin, entactin, aggrecan, decorin, or a collagen.

5. The surface of claim 1 or 3, wherein the CAR material is selected from the group consisting of hyaluronic acid (HA) or a derivative thereof, alginic acid (AA) or a derivative thereof, poly-HEMA, polyethylene glycol (PEG), glyme or a derivative thereof, polypropylacrylamide, polyisopropylacrylamide, or a combination thereof.

6. The surface of claim 1 or 3, wherein collagen VI and/or one of more of the ECM proteins is covalently bound to the CAR material.

7. The surface of claim 6, wherein the CAR material is HA.

8. The surface of claim 1 or 3, wherein one or more of the collagen VI or the ECM proteins is non-covalently bound to the CAR material.

9. The surface of claim 8, wherein the CAR material is HA.

10. The surface of claim 1 or 3, wherein the support is a natural or synthetic organic polymer, or an inorganic composite.

11. The surface of claim 10, wherein the support is selected from the group consisting of polystyrene, polypropylene, polyethylene, polyethylene terephthalate, polytetrafluoroethylene, polylactide, cellulose, glass, or a ceramic.

12. The surface of claim 11, wherein the support is polystyrene.

13. A surface comprising

(a) a polystyrene support to which is bound hyaluronic acid, and

(b) covalently bound to the hyaluronic acid is collagen VI, or a biologically active fragment or variant thereof.

14. An article comprising a surface of claim 1.

15. The article of claim 14, which is a slide, a multi-well plate, a culture dish, a culture flask or a culture bottle.

16. The article of claim 14, which is part of a medical device, a scaffold or template for generating a 3D implant, a tissue and/or an organ, a foam, or a fiber mesh.

17. A method of making a surface of claim 1, comprising

(a) binding a CAR material to the support, and

(b) binding to the CAR material, collagen VI or a biologically active fragment or variant thereof; and optionally,

(i) one or more different ECM proteins, or a biologically active fragment or variant of the ECM protein, and/or

(ii) one or more polycationic polymers, or a biologically active fragment or variant thereof.

18. The method of claim 17, wherein the CAR material is bound to the support by

a) treating the support with an oxidizing plasma, and binding the CAR material to the treated support, or

b) treating the support with an oxidizing plasma, exposing the treated support to a polycationic polymer with amino groups to form an intermediate layer, and binding the CAR material to the intermediate layer.

19. The method of claim 18, wherein the polycationic polymer is polyethyleneimine (PEI) or poly-L-lysine (PLL).

20. A method of promoting the attachment, survival, and/or proliferation of a cell in culture, comprising contacting the cell in a culture medium with a surface comprising

(a) a support to which is bound a CAR material, and,

(b) bound to the CAR material, collagen VI, or a biologically active fragment or variant thereof; and, optionally,

(i) one or more different ECM proteins, or a biologically active fragment or variant of the ECM protein, and/or

(ii) one or more polycationic polymer,

under conditions effective for the attachment, survival, proliferation of the cell.

21. The method of claim 20, wherein

(i) the optional ECM protein is selected from the group consisting of one or more of elastin, fibronectin, vitronectin, tenascin, laminin, entactin, aggrecan, decorin, and a collagen, and

(ii) the optional polycationic polymer is selected from the group consisting of polyethylene imine (PEI), poly-D-lysine, poly-L-lysine, poly-L-lysine, and poly-D-ornithine.

22. A method of promoting the attachment, survival, and/or proliferation of a cell in culture, comprising contacting the cell in a culture medium with a surface comprising

(a) a support to which is bound a CAR material, and,

(b) bound to the CAR material, collagen VI, or a biologically active fragment or variant thereof; and one or more different ECM proteins, or a biologically active fragment or variant of the ECM protein, which ECM protein is selected from the group consisting of elastin, fibronectin, vitronectin, tenascin, laminin, entactin, aggrecan, decorin, and a collagen,

under conditions effective for the attachment, survival and/or proliferation of the cell.

23. The method of claim 20, wherein the collagen VI, one or more ECM proteins, or the polycationic polymer is covalently bound to the CAR material.

24. The method of claim 20, wherein the collagen VI, one or more ECM proteins, or the polycationic polymer is noncovalently bound to the CAR material.

25. The method of claim 23, wherein the CAR material is HA.

26. The method of claim 21, wherein the cell is a mammalian cell.

27. The method of claim 26, wherein the mammalian cell is a human cell.

28. The method of claim 26, wherein the mammalian cell is a rodent cell.

29. The method of claim 26 wherein the mammalian cell is a bone cell or a liver cell.

30. The method of claim 29 wherein the liver cell is a primary hepatocyte, a cell from an established hepatocyte cell line, a cell from a liver tumor cell line or an epithelial stem cell.

31. The method of claim 26 wherein the mammalian cell is a human liver cell of the HepG2 liver tumor cell line.

32. The method of claim 21, which is a method of promoting the survival of a primary hepatocyte or primary bone marrow cell.

33. The method of claim 21, which is a method of promoting the proliferation of a cell from an established hepatocyte or liver tumor cell line.

34. The method of claim 21, which is a method of promoting the proliferation of an epithelial stem cell.

35. The method of claim 21, wherein the culture medium is serum-free.

36. The method of claim 21, wherein the culture medium is supplemented with serum.

37. The method of claim 21, wherein the culture medium is BD Medium #1.

38. A method for identifying a test sample containing a factor that stimulates or inhibits proliferation of cells in culture, comprising

(a) adding the test sample to cultured cells incubated in serum-free medium, the cells being in contact with the surface of claim 1,

(b) measuring cell proliferation in (a), and

(c) comparing cell proliferation in (a) to proliferation of similar cells in a control culture to which the test sample has not been added,

wherein

(i) increased cell proliferation in (a) compared to the control culture indicates the presence in the test sample of a factor that stimulates cell proliferation, and

(ii) decreased proliferation in (a) compared to the control culture indicates the presence in the sample of a factor that inhibits cell proliferation.

39. A method to determine the effect of an agent on a property or behavior of the cell, comprising

(a) adding the agent to cultured cells incubated in serum-free medium, the cells being in contact with the surface of claim 1,

(b) measuring cell proliferation in (a), and

(c) comparing cell proliferation in (a) to proliferation of similar cells in a control culture to which the agent has not been added,

wherein

(i) increased cell proliferation in (a) compared to the control culture indicates that the agent stimulates cell proliferation, and

(ii) decreased proliferation in (a) compared to the control culture indicates that the agent inhibits cell proliferation.

40. The method of claim 39 wherein the agent is a drug.

41. The method of claim 39 wherein the agent is a small molecule.

42. A kit useful for promoting the attachment, survival, and/or proliferation of cells, comprising a surface according to claim 1 and one or more components or reagents suitable for culturing the cells and enabling cell attachment, survival, and/or proliferation.

43. A kit for identifying a factor that modulates positively or negatively proliferation of cells in culture, comprising the surface of claim 1 and one or more components or reagents suitable for (a) growing the cells and (b) measuring cell proliferation.